Item #2, #10, #11

SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

DEC 20 2013

The Honorable Carl Levin
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

Section 1080A of the National Defense Authorization Act Fiscal Year 2012 (Public Law 112-81) directs the Secretary to submit a report on Unit Cost and Readiness of Active and Reserve Components of the Armed Forces. Our report detailing analysis of the relative cost of similar active component and reserve component units is enclosed. As requested, this report also addresses the current mix of forces, readiness, authority to access the reserve component, and demand for forces. The times to make units ready discussed in this report are based on pre-sequestration funding levels and, subject to future funding constraints, are expected to increase.

A similar letter is being sent to the other congressional defense committees.

Thank you.

Sincerely,

Enclosure:
As stated

cc:
The Honorable James M. Inhofe
Ranking Member

SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

DEC 20 2013

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Madam Chairwoman:

Section 1080A of the National Defense Authorization Act Fiscal Year 2012 (Public Law 112-81) directs the Secretary to submit a report on Unit Cost and Readiness of Active and Reserve Components of the Armed Forces. Our report detailing analysis of the relative cost of similar active component and reserve component units is enclosed. As requested, this report also addresses the current mix of forces, readiness, authority to access the reserve component, and demand for forces. The times to make units ready discussed in this report are based on pre-sequestration funding levels and, subject to future funding constraints, are expected to increase.

A similar letter is being sent to the other congressional defense committees.

Thank you.

Sincerely,

Enclosure:
As stated

cc:
The Honorable Richard C. Shelby
Vice Chairman

SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

DEC 20 2013

The Honorable Howard P. "Buck" McKeon
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Section 1080A of the National Defense Authorization Act Fiscal Year 2012 (Public Law 112-81) directs the Secretary to submit a report on Unit Cost and Readiness of Active and Reserve Components of the Armed Forces. Our report detailing analysis of the relative cost of similar active component and reserve component units is enclosed. As requested, this report also addresses the current mix of forces, readiness, authority to access the reserve component, and demand for forces. The times to make units ready discussed in this report are based on pre-sequestration funding levels and, subject to future funding constraints, are expected to increase.

A similar letter is being sent to the other congressional defense committees.

Thank you.

Sincerely,

Enclosure:
As stated

cc:
The Honorable Adam Smith
Ranking Member

SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

DEC 2 0 2013

The Honorable Harold Rogers
Chairman
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Section 1080A of the National Defense Authorization Act Fiscal Year 2012 (Public Law 112-81) directs the Secretary to submit a report on Unit Cost and Readiness of Active and Reserve Components of the Armed Forces. Our report detailing analysis of the relative cost of similar active component and reserve component units is enclosed. As requested, this report also addresses the current mix of forces, readiness, authority to access the reserve component, and demand for forces. The times to make units ready discussed in this report are based on pre-sequestration funding levels and, subject to future funding constraints, are expected to increase.

A similar letter is being sent to the other congressional defense committees.

Thank you.

Sincerely,

Enclosure:
As stated

cc:
The Honorable Nita M. Lowey
Ranking Member

UNIT COST AND READINESS FOR THE ACTIVE AND RESERVE COMPONENTS OF THE ARMED FORCES

REPORT TO THE CONGRESS

Office of the Secretary of Defense

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Section 1080A of the National Defense Authorization Act for Fiscal Year (FY) 2012, Public Law 112-81, requires the Secretary of Defense to submit a report on the Department of Defense Active and Reserve Components, describing unit costs, force mix, demand for forces, and readiness. This report responds to that requirement.

Key Findings:

- There are several important factors in Active Component (AC) and Reserve Component (RC) mix decisions, including the timing, duration, and skills required for anticipated missions. Cost is always considered but is only one factor among many.

- Full cost analysis is very complex. Both individual costs (compensation and benefits) as well as unit level costs (for training) need to be considered. Costs vary depending on unit utilization – in particular, for the RC, both costs in drill status and costs when activated must be considered.

AC/RC Mix:

Determining the right size and mix of our AC/RC assets turns foremost on the ability to provide ready forces when needed that can accomplish the mission. Though cost is singled out in the reporting requirements, it is one of many factors used to determine the right mix of AC and RC forces. The other factors that shape AC/RC force balance decisions include: sourcing for continuous operations (forward and homeland), surge, and post-surge demands; predictability and frequency; responsiveness of the force based on complexity of the task, urgency of the task, unit integration, mission, or role; and retention considerations. For example, RC units that require complex integration skills (e.g., an Army Infantry Combat Team) can require anywhere from 50 to 110 days of pre-deployment training to be ready for deployment.

The specific application of these factors varies across the Services and is based on capabilities or unit types. This report includes data on the AC/RC mix for most of the major unit types of all four Services plus the Coast Guard. These data show the mix varies widely depending on military capability or unit type.

The programmed AC/RC mix represents the Department's best estimate of the force mix required to meet current and future military challenges in support of the National Military Strategy. As a part of the planning, programming, and budgeting process, this mix is constantly being re-evaluated and updated as necessary.

Cost:

Considering only cost of an individual, a drilling Reservist who serves 39 training days per year is about 15 percent the cost of an AC service member per year. An RC service member on active duty for an entire year costs about 80 percent to 95 percent as much as an AC service member, depending on rank, Service, and the extent to which all compensation costs are

included in the calculation. These cost estimates take into account some differences in benefit availability and utilization by component.

The cost of a unit includes both individual compensation as well as operating and maintenance costs. In peacetime, AC units are generally funded to maintain a higher level of readiness relative to the RC. This higher readiness provides quicker reaction time and more flexibility in the face of unforeseen events. While there are some exceptions, particularly in the Air Force, RC units are generally resourced at a lower level of readiness in peacetime and require additional time and resources to be ready for deployment. This is a low cost way to maintain additional capacity given there is sufficient time to train these units to become ready for the mission. These training times range from days to months depending on unit type.

For most units, the cost is dominated by the cost of personnel. Training costs differ between components because of the variance in time spent training. Over the course of a year, a RC unit conducting 39 days of home station training (e.g., drilling Reservists) costs much less than a full time AC unit that is performing work throughout the year with RC unit costs ranging between about 21 and 68 percent of an AC unit. High readiness RC units requiring a large number of full time staff, such as Air National Guard and Air Force Reserve fighter squadrons, may cost two thirds to three quarters as much as an AC unit in peacetime. When a RC unit is employed (deployed or mobilized), its unit operational costs are roughly identical to the AC. RC unit personnel costs are about 80 percent to 100 percent of the AC, due chiefly to differences in seniority of unit manning between AC and RC.

AC/RC MIX

What Drives the AC/RC Mix

There are five factors that play a key role in AC/RC mix decisions:

- Sourcing for continuous operations (forward and homeland), surge and post-surge demands
- Mission Predictability and frequency (force employment policy)
- Responsiveness of the force based on urgency of the task, unit integration, mission, or role
- Retention and sustainment
- Cost of unit manning, training, and equipping

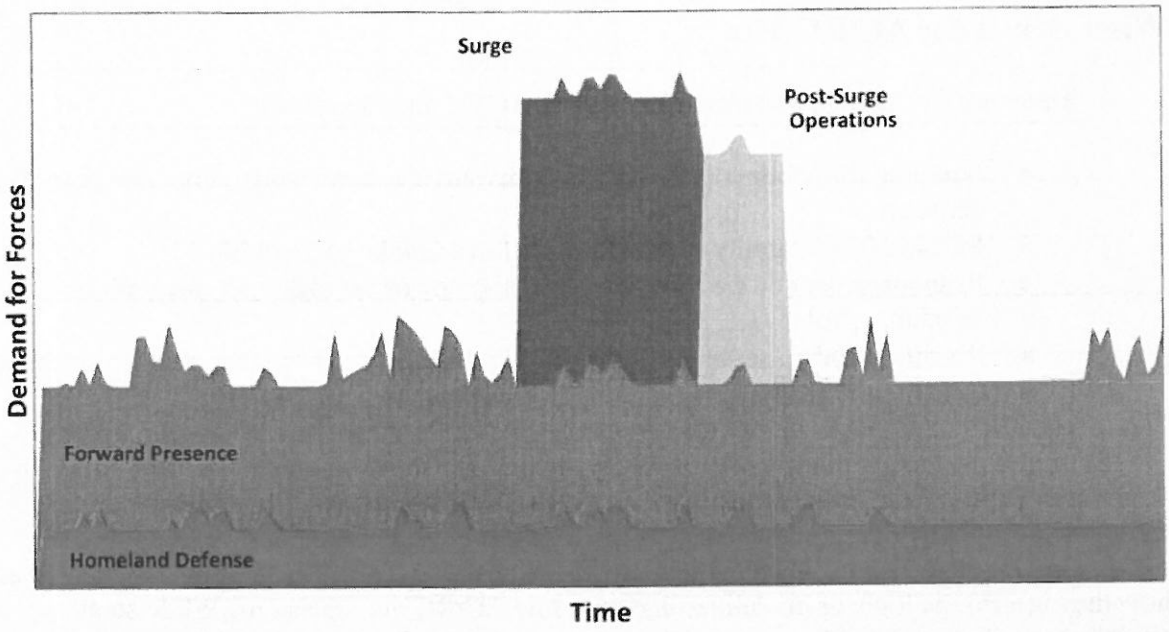
The first three factors relate to our ability to accomplish the mission and are thus critically important. Retention and sustainment consider stress on the force and, therefore, are always taken into account by decision makers. Cost is always a consideration, but we find it is often outweighed by other factors when making mix decisions. We discuss each of the key factors and how they inform the logic or guidelines underpinning AC/RC mix decisions. While some guidelines apply broadly, others vary widely depending upon Service, mission, and unit.

Demand for Forces

Our military forces must be capable of conducting a broad range of multiple, overlapping operations to prevent and deter conflict and, if necessary, to defeat adversaries via combat operations. At the same time, U.S. forces must be capable of defending the homeland and providing support to civil authorities.

Figure 1 depicts the range of demands on our forces. Forward presence consists of stationed and rotating forces conducting a wide range of day-to-day activities such as deterrence, crisis response, building partnership capacity, and security force assistance. Homeland defense provides forces for routine operations, catastrophic events, and periods of heightened threat within the United States. Forces committed to early surge operations must rapidly apply combat power to delay, impede, or halt the enemy's initial aggression and deny its initial objectives. Later surge operations consist of breaking the enemy's will to resist, or gaining control of land, air, and/or maritime objectives. After major combat operations end, the objective of post-surge or stability operations is to create a safe and secure environment in which essential government services can resume and emergency infrastructure, reconstruction, and humanitarian relief can proceed.

Figure 1



AC/RC Mix Guidelines

Sourcing for Forward Presence, Surge and Post-Surge Demands

In sizing the force to meet surge requirements, the Department of Defense (DoD) strategy dictates that we must maintain a force large enough to deny the objectives of, or impose unacceptable costs on an opportunistic aggressor in a second region while forces are committed to a large-scale operations in another region. Much of the DoD's force structure is sized in the aggregate to address these surge and post-surge requirements. The balance between AC and RC forces is based on the guidelines described below.

> *1a: Both AC and RC units can support surge operations, though responsiveness considerations discussed below can mean AC units predominately supply early surge needs and RC units are more suitable for late surge or post-surge operations.*
>
> *1b: When demand for forward presence dictates the size of the force, elements are most appropriately sourced in the AC, especially for capital-intensive units.*

The AC's high level of peacetime training and availability typically make them the preferred force for providing day to day forward presence and surging forces in the initial stages of a conventional conflict. RC forces typically need a longer period to train and thus are more often used in the latter stages of surge operations or in post-surge missions. A notable exception is in the Air Force where RC can provide early surge forces based on volunteerism, involuntary mobilization, and/or in cases where missions involve individual skill sets. The nature of unit responsiveness is discussed in more detail, below.

For some elements of the force, the demand for forward presence requires a total force size that exceeds surge requirements. Here the size is driven by the need to manage stress on units and equipment by rotating forces in accordance with DoD component rotational policy. In the case of extremely capital-intensive forces, sourcing typically falls almost exclusively to the AC. Examples include submarines, carrier strike groups, and amphibious ready groups. In these cases, RC forces can be used to augment manning levels in times of crisis.

Responsiveness

Based on capability, AC and RC units exhibit a wide array of response times ranging from days to months. As discussed above, AC capabilities are generally used in situations that require a prompt, combat capable response, especially where the mission demands large, capital-intensive units such as armored maneuver units, capital ships, or some combat aircraft. Generally, the RC forces work well to enhance capacity in later phases, given time needed for administrative and training activities.

2a: Responsiveness of units requiring perishable, collective, or specifically military skills tends to be higher in the AC than the RC.

A key enabler of readiness and responsiveness is the amount of time and funding allocated to a unit's training. This is critical in the case of missions that require the orchestration of large combat units (e.g., brigades) to conduct ground maneuver warfare. In addition, for ground forces, capital-intensive units (containing tanks, fighting vehicles, etc.) tend to require more training than manpower-intensive units such as military police. The amount of time and funding required depends on the mission, the level of unit integration, and the types of equipment units operate.

2b: Responsiveness of units where individual skills are of primary importance can be similar in the AC and the RC.

While many individual military skills are sophisticated in nature, some involve expertise that is transferable from civilian life (examples are physicians, engineers, transport pilots, and logisticians). These personnel typically need only individual training before or after they are mobilized and thus can be ready and available to support an operation soon after it begins. Air Force units that tend to draw more heavily on such skills (individual and small unit) can be maintained in dwell at equivalent high readiness levels in both AC and RC units. For example, Air Force transport and tanker units draw heavily on individual skills rather than large group integration, thus allowing for equivalent high readiness levels in both AC and RC units.

Mission Predictability and Frequency

Other aspects of the demand for peacetime presence influence the choice of component. These include mission predictability and frequency as measured by the length of dwell between deployments.

3a. Unpredictable and frequent deployments tend to be better aligned with the AC units, especially in the case of capital-intensive units.

As a full-time force, the AC is organized to deploy more often and tolerate less dwell time between deployments than RC forces. The periodic, operational use of the RC for these types of missions can mitigate stress on the AC, especially where RC volunteerism is high.

3b. Predictable or infrequent deployments tend to align better with the RC units.

Deployments that can be scheduled in advance or allow for greater dwell are well suited to RC members. Recent additions to the DoD's mobilization authorities (e.g., Title 10, 12304b) facilitate programed use of the RC. This type of use allows the RC personnel to manage their life and maintain a balance between service and full-time civilian employment. Careful management is vital to RC recruiting and retention, especially in times of national economic prosperity and stability when RC members may be less motivated to continue their military careers.

Retention and Sustainment

4: Both the AC and the RC can be used in ways that will lead to retention issues.

It is important to note that an AC/RC mix which leads to overutilization of either component will eventually lead to retention issues. This is particularly true where involuntary mobilization of RC forces is required to avoid over-use of AC forces that are inadequately sized to conduct frequent, long-duration operations. Maintaining the health of the force requires managing both AC and RC forces at a sustainable level, capable of meeting DoD projections for routine overseas rotational forces, surge forces for crises, and sustained post-surge operations. The Secretary of Defense's post-surge deploy-to-dwell goal is meant to ensure that AC forces deploy at a rate of no less than 1:2 (e.g., six months deployed followed by 12 months at home base) and that RC forces are mobilized at a rate of no less than 1:5. An AC/RC balance that requires more frequent routine AC deployments or involuntary mobilization of RC forces to avoid such over-use of AC forces puts stress on the Total Force. The real cost of those frequent deployments are measured not only in increased recruiting and retention costs for both the AC and RC, but also in increased health costs for service members.

Cost

5a: When not used, the RC costs considerably less than the AC on an annual basis.

RC capabilities that can be maintained with low peacetime manning and used less frequently have the advantage of the low cost "dwell" time. Low utilization of RC units can extend equipment service life and reduce acquisition costs.

5b: When the RC is used, it costs about the same as the AC.

The major difference in unit cost between AC and RC is personnel cost. Unit operational costs are close to identical in most cases once the RC unit is activated. Increasing the use of the RC for day-to-day operational demand or increasing the readiness of the RC in dwell for major combat operations reduces the savings of a part-time force.

Nuances

While the above guidelines apply in many cases, there are notable exceptions, such as in the case of Air Force tactical air forces (TACAIR). While in general the AC provides the combat forces for early surge operations, the Air Force relies on RC TACAIR early in a surge operation. This is possible because the Air Force RC has a relatively large number of full time support personnel in peacetime and maintains a fairly senior force, many of which were recruited from the AC.

Another example is the Marine Corps use of RC maneuver units relatively early in surge operations. This is possible because the Marines devote resources to AC and RC command structure integration in peacetime and, when deployed, they integrate their RC assets into AC units at a lower echelon (i.e. company or battalion level), which avoids the requirement for more complex brigade level training. This approach has many advantages, including a more responsive RC.

Achieving the Right Mix: Air Force Example

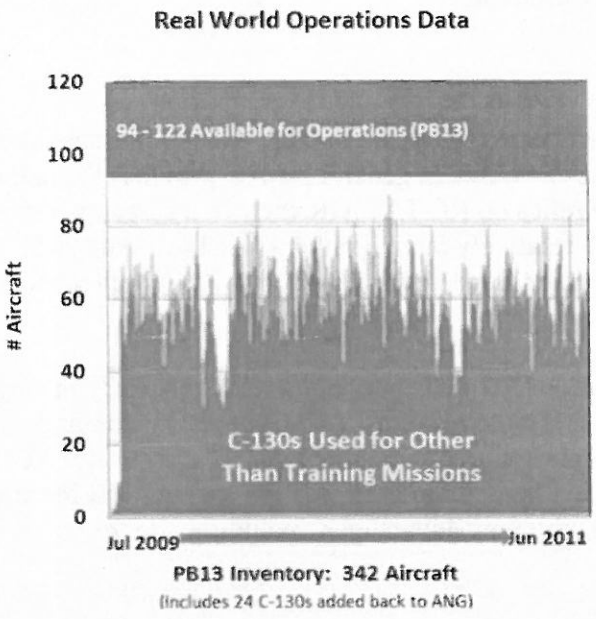
The President's Budget for FY 2013 (PB13) made reductions in the tactical airlift force to align supply of C-130s with surge demand. Given the new total inventory, the Air Force determined a new AC/RC mix. Since AC and RC have roughly equivalent readiness for surge, the optimal AC/RC mix is driven by matching the daily operational demand to a sustainable utilization of AC and RC forces.

The size of the force can be reduced by eliminating aircraft from the RC alone, from the AC alone, or a mix of aircraft from both RC and AC. The merit of each case is based on maintaining a sustainable utilization rate that meets the daily operational demand, does not stress the force, and allows the Air Force to recruit and retain personnel in each component. Reductions in the AC have a greater impact on the ability to meet daily operational demand than reductions in RC. Mix is critically dependent on an assessment of future operational demand. If assumed demand remains the same or increases, a greater portion of the force needs to be AC to accommodate the operational tempo. If future demand decreases, then the AC fraction of the force can decrease.

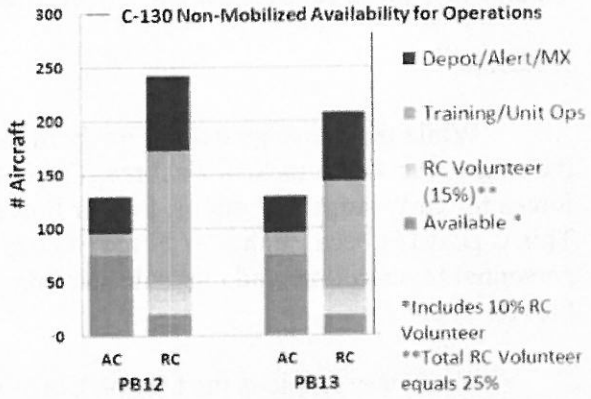
Figure 2 shows the effect of the USAF PB13 C-130 force reduction on the daily availability of aircraft in the context of recent operational demand. The chart in the upper left quadrant shows two years of data reflecting the number of aircraft used daily for non-training sorties. The red band represents the range of aircraft available to meet that demand. All AC aircraft not withheld for training or alerts or in depot or other maintenance status are assumed available for operations. RC aircraft are assumed to be available for operations based on aircrew volunteerism ranging from a historical 10 percent to a National Guard projection of 25 percent.

Figure 2

Effects of PB13 changes on daily aircraft availability for operations



Historical Data from GO81
Available tails based on PB13 Fleet using AMCI 10-202v6 guidelines
2011 mission capable rates included



Reduction of 41 C-130s results in minor changes to number of aircraft available for sustained operations

Number of Aircraft Available Daily for Operational Missions		
	AC + 10% RC	AC + 25% RC
PB12	95	129
PB13	94	122
Change	-1	-7

The impact of the FY 13 force reduction on the daily availability of aircraft is depicted in the lower right. By taking the force reduction from the RC, the USAF was able to right-size the force relative to surge operations while minimizing the impact on the ability to support and sustain the current demand.

A reduction in AC alone results in the number of aircraft available to meet daily operational demand dropping below the number needed in recent years and may result in an unsustainable deploy-to-dwell ratio for the remaining AC and/or RC. (In the case of the RC this means exceeding the historical volunteer rate of 10 percent to 13 percent.) The resulting increase to the deploy-to-dwell ratio for both the AC and RC is projected to create risk in retention and recruitment. If both the AC and RC are decreased, the risk of stressing the force is less that reducing AC alone, but the operational tempo still presents a potential problem relative to daily demands experienced over the past few years.

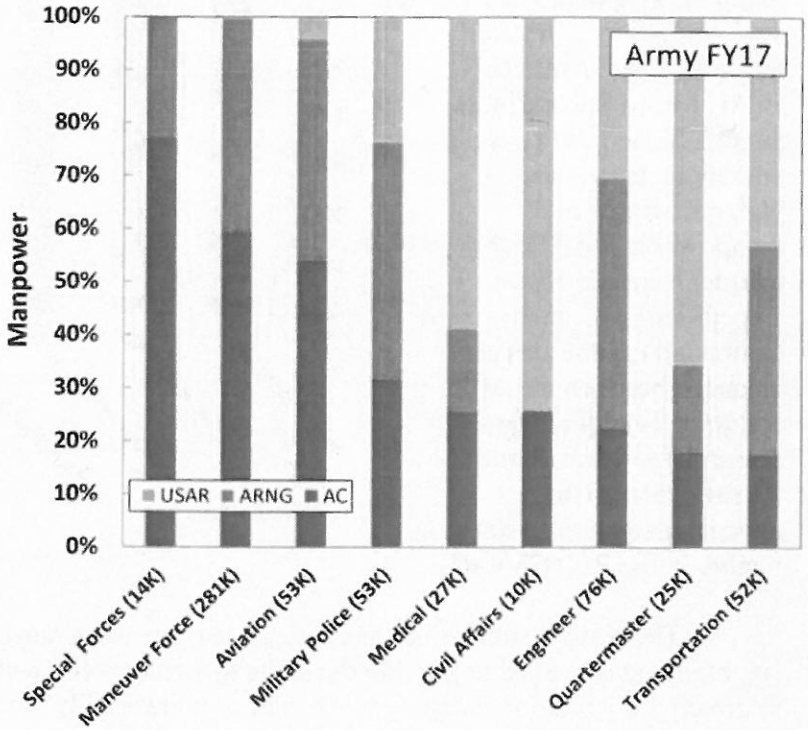
AC/RC Mix Guidelines Reflected in Service Data

The following figures depict selected types of units for each Service broken out by the percentage of manpower in the AC compared to the National Guard and/or the Reserve in FY 17. These force mixes reflect the principles discussed previously.

Army AC/RC Mix

Figure 3 depicts nine types of Army units broken out according to the percentage of manpower in the Active, Army National Guard (ARNG), and US Army Reserve (USAR) units. The majority of Special Operations Forces, maneuver units, and aviation units reside in the AC. Special Forces are mostly in the AC because they have unpredictable and/or frequent deployments and highly perishable military skills. Maneuver units are predominately in the AC because they require extensive large unit collective training. Army aviation forces are capital-intensive and have been deployed frequently over the past decade. The majority of enablers such as engineer, military police, quartermaster, transportation, and medical units reside in the RC. Such units are well suited for the RC because they involve individual or small unit skills that can be mobilized quickly for surge.

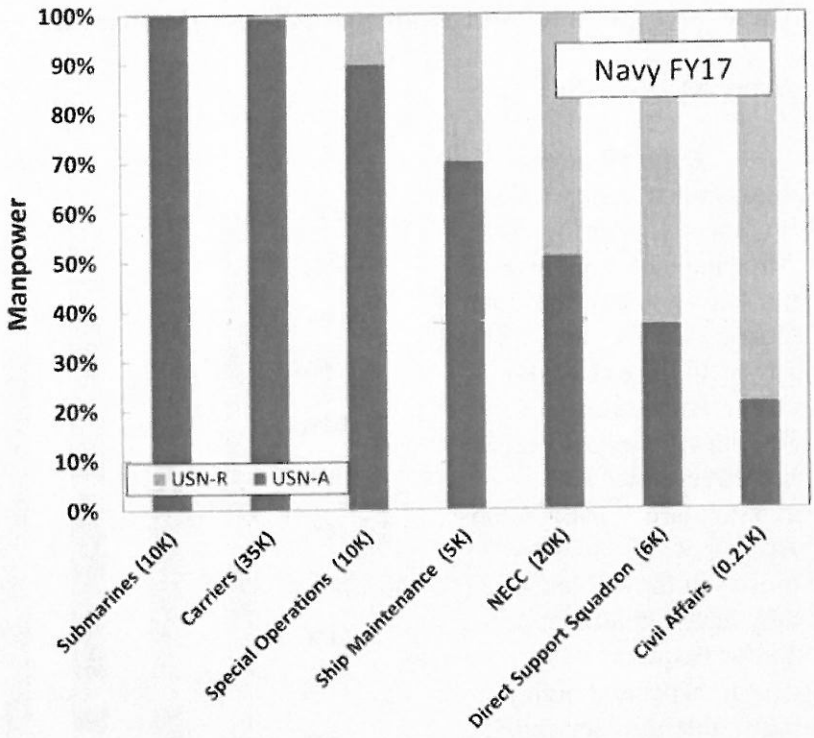
Figure 3



Navy AC/RC Mix

Figure 4 depicts seven types of Navy units broken out according to the percentage of manpower in the Active and Reserve Components. With a large part of the force geared to frequent, long duration deployments in peacetime, the Navy is predominately an AC force. Submarines, aircraft carriers, and special operations forces have a high percentage of manpower in the AC; ship maintenance and Naval Expeditionary Combat Command capabilities are balanced between the AC and RC; civil affairs and direct support squadrons (logistic aircraft and adversary squadrons) are mainly in the RC (USN-R).

Figure 4



The Navy's submarines and aircraft carriers are almost exclusively manned by the AC. AC manning is needed to provide the skills associated with complex operating forces, support relatively long rotational deployments, and provide readily accessible capabilities. Similarly, heavy AC manning of Special Operations Force units is needed to support the frequent deployments for tasks requiring highly perishable military skills.

There are multiple benefits to using RC manning for ship maintenance commands: their workload is predictable, there is a high degree of civilian skill overlap, and the work can be accomplished in shorter deployment periods. However, the Navy retains a large number of AC personnel in ship maintenance to provide a skill enrichment environment for sailors on shore duty; hence these units are mostly, but not exclusively, active.

The Naval Expeditionary Combat Command (NECC) encompasses many combat support capabilities like construction battalions, port security, and coastal warfare. Because this force is used in forward presence, surge, and post-surge, the NECC forces are expected to approach a 50/50 split between AC and RC manpower in FY 17.

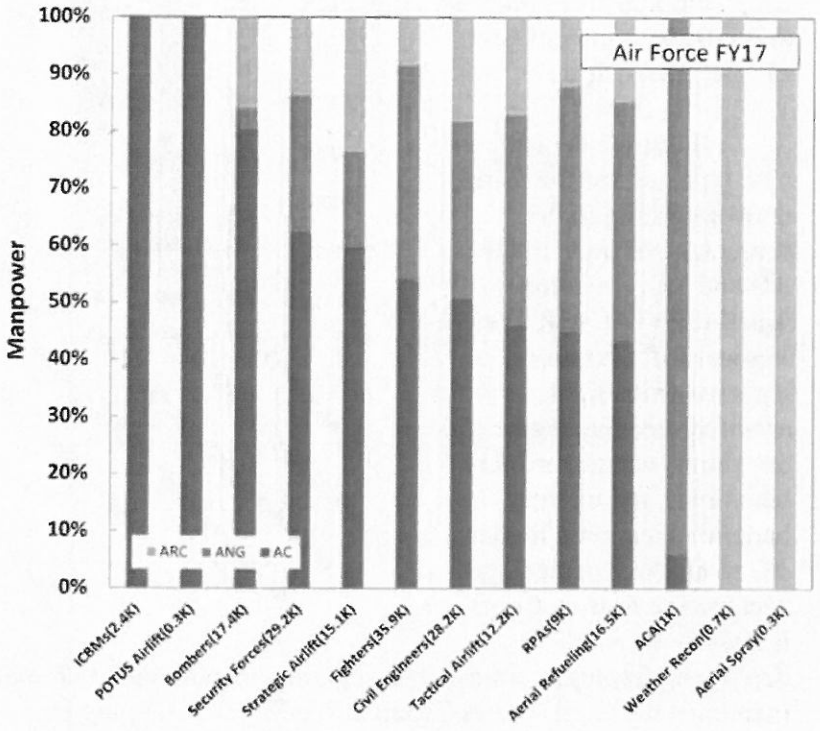
Navy civil affairs units predominately employ RC manpower because they have a strong civilian skills linkage and are typically utilized through individual or small unit deployments.

The majority of Direct Support Squadrons manpower is RC because its mission sets are predictable in nature, of short duration, and can be accomplished through small unit detachments. RC civil affairs and Direct Support Squadrons will provide augmentation to meet the anticipated high-levels of forces needed for surge requirements, particularly if the nation mobilizes for war.

Air Force AC/RC Mix

Figure 5 depicts thirteen types of Air Force units broken out according to the percentage of manpower in the Active, Air National Guard (ANG), and Air Force Reserve (AFRC). The intercontinental ballistic missile (ICBM), presidential airlift and bomber units have high percentages of manpower in the AC. These assets involve constant high alert and/or high-tempo steady state operations. ICBM units also require highly perishable military skills with no civilian parallels.

Figure 5



In contrast, security force, strategic airlift, civil engineer, aerial refueling, remotely piloted aircraft (RPA), and tactical airlift units employ considerable RC manpower because they involve individual or small unit skills with very close civilian parallels; these forces can be quickly mobilized for surge and other operations from continental United States locations. Fighter units are fairly evenly split between AC and RC manpower in order to provide surge capability from the AC and follow-on support from RC units. By retaining experienced senior pilots who spent the first part of their career in the AC, the Air Force is able to maintain higher readiness in RC fighter units, in spite of the fact that piloting fighter aircraft is a complex skill with little civilian overlap.

Weather reconnaissance and aerial spray units are entirely in the AFRC because they generally have very low steady state operations with no overseas presence requirement.

Marine Corps AC/RC Mix

The Marine Corps is an expeditionary force in a high state of peacetime readiness and thus has a high percentage of AC manpower. The role of the Marines' reserve division, wing, and logistics group is to reinforce, augment, and sustain the AC force.

Figure 6

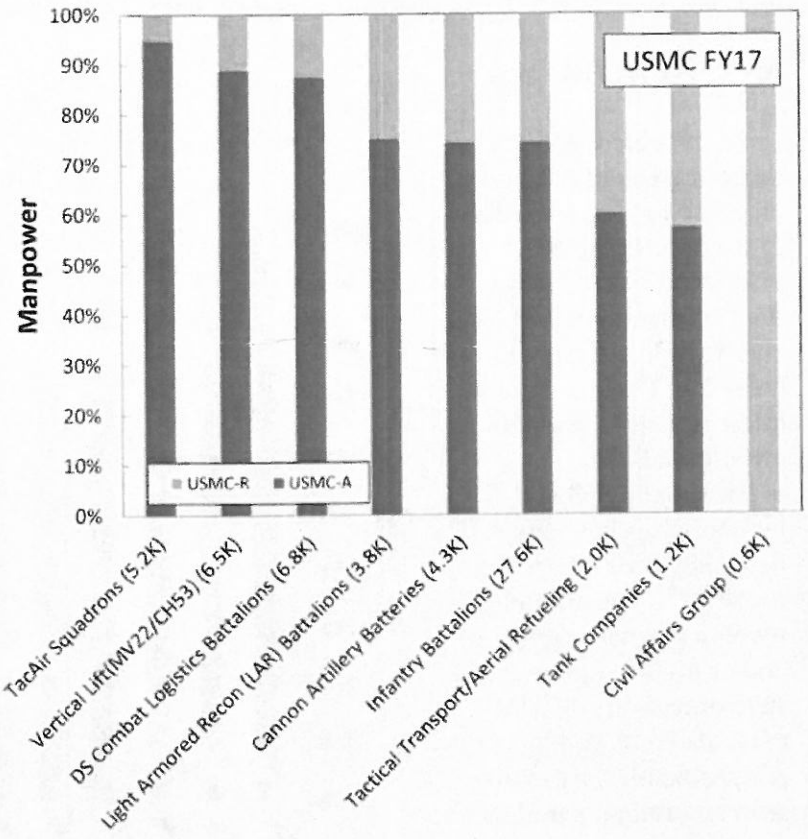


Figure 6 depicts nine types of Marine Corps units according to the percentage of units in the AC and RC. Aviation squadrons (TACAIR and Vertical Lift), combat logistics units, light armored reconnaissance battalions, cannon artillery battalions, and infantry battalions maintain higher AC manpower percentages because the Marine Corps is heavily forward-deployed: shaping, training, deterring, and responding to all manner of crises. The Marine Corps maintains the Civil Affairs Group in the RC, thus tapping into a more mature force with greater civilian experience to augment a relatively young AC combat force. Lower density units such as tactical transport aircraft and tank companies maintain a more balanced AC/RC mix because they deploy far less frequently in peacetime.

U.S. Coast Guard AC/RC Mix

Figure 7

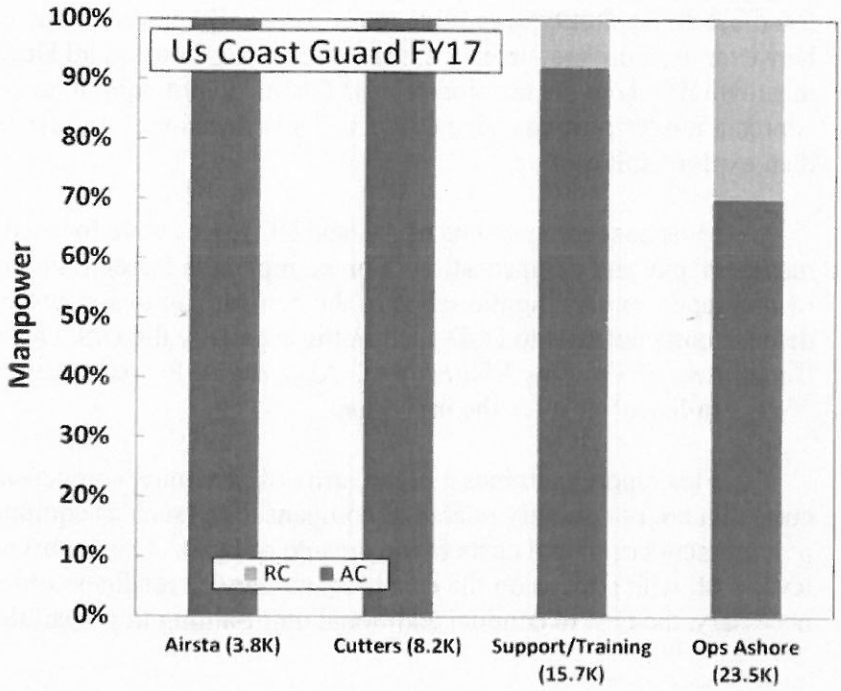


Figure 7 depicts four major functional areas according to the percentage of manpower in the AC and the RC. The aviation and ship (cutter) communities require a peacetime proficiency beyond what can be achieved within limited RC service member training time, so these functional areas employ 100 percent AC manpower. Approximately 7 percent of Support and Training is comprised of RC personnel, providing proportional staffing to ensure Reservists are qualified and ready to respond to any domestic or international contingency. The Coast Guard Reserve is poised to respond to domestic emergencies or DoD requests for forces, and accounts for 30 percent of the manpower associated with operations ashore in the United States.

COST

As discussed above, determining the right size and mix of our AC/RC assets turns foremost on the ability to provide ready forces when needed that can accomplish the mission. However, because resources are limited, cost is a factor in all DoD decisions. Cost can be useful in situations where the mission-related factors do not point to a clear choice. To get a better appreciation for how cost shapes AC/RC mix decisions, we first examine manpower cost and then explore unit cost.

Most cost comparisons of AC and RC forces have focused on individual service members' pay and compensation. For example, the Reserve Forces Policy Board (RFPB) recommends expanding the scope of the comparison to account for all DoD costs as well as defense costs external to DoD such as those paid by the U.S. Department of the Treasury and the Department of Veterans Affairs (VA). Also, the RFPB report attempts to generate a per capita "fully burdened" cost for the individual.

This report examines a broad array of personnel compensation costs, but excludes DoD costs that are not directly related to compensation (such as equipment development and procurement costs) and costs borne outside of DoD. This report also considers AC and RC unit level cost, with a focus on the cost to reach Service readiness objectives for a unit, and when necessary, the cost to conduct additional unit training in preparation for deployment.

Personnel Costs

Individual Compensation

This report begins the look at individual compensation by examining pay and benefits funded by the Military Personnel appropriations. In the following sections we examine three different pay grades (O-5, E-7, and E-4) to gain a better understanding for how individual compensation varies by component. Similar comparisons can be done for other pay grades and Services, and yield substantially similar results.

Table 1 provides individual compensation costs for AC and RC members using an Air Force officer with the rank of lieutenant colonel (which is a grade of O-5) as an example. Compensation depends on years of service; this example uses the average for personnel of this rank in each component. The data shows that the Reservist in drill status is the least expensive on a yearly basis, costing about 16 percent of an AC service member. Here the Reservist in drill status is defined as a service member in the Selected Reserve who completes 24 weekend drill days and 15 days of annual training. The reservist on active duty for one year is defined as a Reservist who has been activated and on full-time status for one year, then returns to part-time status once the year time period is over. The cost of a Reservist on active duty for a year is about the same cost as an AC Service member. Specifically, a RC member costs 95 percent as much as an AC service member per year. The main factors driving the differences are seniority, access to retirement benefits, and permanent change of station (PCS) costs which are part of "Other Allowances."

Table 1

Individual Compensation Example, PB13

Individual Compensation US Air Force O-5 ($ per Year)	Basic Pay[1]	Retired Pay[2]	MERHC[3]	Other Allowances[4]	Service Composite Rate
AC (Average of 17.5 years of service)	95,000	30,000	4,000	54,000	183,000
RC on Active Duty all year (Average of 21 years of service)	100,000	24,000	2,000	49,000	175,000
RC in Drill Status (Average of 21 years of service) Assumes 39 days = 24 days drill (48 pay periods) + 15 days AT	17,000	4,000	2,000	5,000	29,000

1. Average Basic Pay based on Defense Finance and Accounting Service 2013 pay tables.
2. Retired Pay: From DoD Comptroller website; rates used in Fiscal Year 2013 President's Budget, Budget Justification Books submitted to Congress. The rates, as determined annually by DoD Actuary, are lower for RC (24.4%) than the AC (32.1%) due to difference in retirement benefit and based on the time RC service members are activated.
3. Medicare-Eligible Retiree Health Care Accrual provided by DoD Comptroller as published annually in Defense Military Personnel Composite Standard Pay and Reimbursement Rates; determined by DoD Actuaries. RC MERHC rates are lower than AC rates based on RC eligibility. MERHC rates in table are rounded and do not equal the acutal calcuated rate.
4. Remainder containing other benefits, broken out using Air Force, Air Force Reserve, and Air Force National Guard Military Personnel Justification Documents.

The categories of individual compensation come directly from DoD budget materials describing military personnel appropriations. Each category's definition and impact on total direct compensation is discussed below.

Basic pay. Basic pay is the largest component of a military member's pay, and is determined by grade/rank and years of service. On average an AC Air Force O-5 will have 17.5 years of service and a RC Air Force O-5 will have about 21 years of service, which means the average activated RC O-5 will earn a higher basic pay than the average AC O-5. A RC O-5 in drill status earns a small fraction of what is paid to a full time O-5 on an annual basis.

Retired pay accrual. The Department contributes to a retirement pay accrual fund over a service member's career based on an estimate of the deferred compensation needed to fully fund her or his retirement. DoD actuaries determined that the rate for retired pay accrual (needed to cover future retirement and survivor benefits) in FY 2013 is about 32 percent of an AC member's base pay, and 24 percent of an activated RC member's base pay, which translates to a $30,000 annual cost for an AC O-5 and $24,000 for a RC O-5. The RC member rate is lower because RC personnel typically begin drawing retirement later in life and typically at a lower fraction of their salary and thus receive a lower benefit for fewer years. These rates do not take into account U.S. Treasury funds needed to cover retirement costs associated with service prior to October 1, 1984—the year in which the DoD retirement accrual fund was established.

Medicare Eligible Retirement Health Care (MERHC) MERHC funds also accrue over the career of a service member. MERHC is a flat rate contribution to cover Medicare supplemental health care benefits, known as TRICARE for Life, once the member retires from military service and becomes Medicare-eligible (at age 65). The FY 2013 budgeted MERHC cost is about $4,400 for an AC member and about $2,400 for a RC member. The RC rates are lower than the AC rates because Reservists are less likely to reach retirement eligibility than active members and are more likely to have other retirement health care plans, thereby drawing less on their TRICARE for Life benefits.

Other allowances. Other allowances include special pays (e.g., for hazardous duty), bonuses, PCS costs, and allowances for housing and subsistence. With the exception of PCS, allowances are generally the same for AC and RC service members on active duty. RC service members in drill status would normally receive a small fraction of these compensations. The costs for the RC that are the closest analogy to AC PCS costs, personnel travel to training facilities, are captured in the unit operational costs, below.

Service Composite Rate. The sum of the annual cost of basic pay, retirement pay accrual, MERHC, and "Other Allowances" is found in the Service Composite Rate column in Table 1.

AC and RC Personnel Cost Trends

Table 2 and Table 3 provide individual compensation cost data for AC and RC members for Air Force enlisted personnel with the rank of master sergeant (which is a grade of E-7) and senior airman (which is a grade of E-4). These data show the same trends as the previous Air Force O-5 example. The average RC E-7 on active duty for a year costs roughly the same (94 percent) as his AC counterpart. The annual cost of a RC E-7 in drill status is about 15 percent of an AC E-7. Table 3 exhibits a similar trend: the average RC E-4 on active duty for a year costs roughly the same (94 percent) as his AC counterpart and the annual cost of an average RC E-4 in drill status is about 17 percent of an average AC E-4

Table 2

Individual Compensation Example, PB13

Individual Compensation US Air Force E-7	Basic Pay	Retired Pay	MERHC	Other Allowances	Service Composite Rate
AC (Average of 15.6 years of service)	50,000	16,000	4,000	36,000	105,000
RC on Active Duty all year (20.9 years of service)	52,000	13,000	2,000	32,000	99,000
RC in Drill Status (Average of 20.9 years of service) Assumes 39 days = 24 days drill (48 pay periods) + 15 days AT	9,000	2,000	2,000	3,000	16,000

Table 3

Individual Compensation Example, PB13

Individual Compensation US Air Force E-4	Basic Pay	Retired Pay	MERHC	Other Allowances	Service Composite Rate
AC (Average of 3 years of service)	25,000	8,000	4,000	25,000	62,000
RC on Active Duty all year (5 years of service)	28,000	7,000	2,000	22,000	58,000
RC in Drill Status (Average of 5 years of service) Assumes 39 days = 24 days drill (48 pay periods) + 15 days AT	5,000	1,000	2,000	2,000	10,000

Other Compensation Costs

This section addresses costs associated with personnel benefits that are not included in Military Pay appropriations and lie primarily outside of Service budgets. Table 4 depicts four major elements of DoD-Wide benefits compensation costs. These costs vary by component, but apply equally to all members within the component, regardless of grade or time of service. These DoD costs are derived from budget documentation and span all appropriations. A description of how they were derived and assumptions about how they apply to the AC and RC follows.

Table 4

DoD-Wide Benefits	AC	RC Active Duty	RC Drill Status
Military Healthcare System[1] Includes TRICARE and Military Hospitals while on active duty	11,000	7,000	1,000
Post-Retirement, Pre-Medicare Costs[1] TRICARE between retirement and Medicare eligibility	5,000	1,000	1,000
Family Housing[2]	1,000	0	0
Family Support Programs[2] Includes DoD schools, counseling, commissaries, child care	6,000	~0	~0
Total	**23,000**	**8,000**	**2,000**

1. OSD(P&R) Health Affairs and DoD Actuary estimated amounts based on budgeted budget execution and observed use by component

2. Office of the Under Secretary of Defense (Comptroller) Defense Budget Materials - FY2014

Medical Healthcare System. The largest single personnel cost outside individual compensation is the Department's Medical Healthcare system, which includes TRICARE and military hospitals. The cost of health care for an AC Service member in FY 2013 was estimated to be $10,563. The corresponding annual cost for an activated Reservist is $7,095. When Reservists are activated for more than 30 days, they and their families are eligible for the same health insurance programs as AC Service members and families. Reservists cost less than Active members because family members of activated reservists tend to have other healthcare insurance from their civilian career and therefore use the military health program at lower rates than family members of AC personnel.

When not activated, Reserve personnel are eligible for health care for injuries or illnesses sustained in the line of duty; but coverage does not extend to dependents. The RC member in drill status was assessed to use only $680 in Medical Healthcare System benefits in FY 2011. This figure includes the cost of the TRICARE Reserve Select benefit eligible to non-activated Reservists. This program offers health insurance through the military system and requires a premium contribution of 28 percent of the estimated total plan costs.

Post-retirement, pre-Medicare coverage. This category addresses the full healthcare coverage provided under TRICARE when a service member retires before age 65. The cost of TRICARE between a member's retirement and Medicare eligibility is paid out of DoD funds; the assessed rate per service member is based on the funding needed to resource an accrual account. The large difference in cost between AC and RC members is a result of delayed eligibility for RC members, who typically retire at a later age than AC members.

Family Housing Program. The funding in this program provides for maintenance, repair, and new construction of housing owned and operated by DoD. The cost depicted in Table 4 was derived by dividing the total amount for family housing funding as found in the National

Defense Budget Estimate for FY 2013 by the total number of AC service members. RC members are not eligible for this benefit, as reflected in Table 4.

Family Support Programs. DoD family support programs are a collection of additional personnel benefits including commissaries, child care, and dependent education. The DoD requested about $9 billion for family support programs in the PB13. Though some of these programs are available to RC personnel, RC utilization is modest relative to the AC. For example, per the National Defense Authorization Act for FY 2004 (P.L. 108-136), the National Guard and Reserve members with a valid identification card have unlimited shopping privileges at commissaries; however, utilization by Reservists constitutes only about 3 percent of commissary sales, which translates to a negligible annual RC share of the Defense Commissary Agency's operating costs. Another example is the Yellow Ribbon Reintegration program, funded at $200 million in the FY 2013 overseas contingency operations budget. This cost represents about $240 per Reservist per year and is not included because it is within the margin of error for these composite rates. For the purpose of this report, the entire cost of family support programs is attributed to AC members.

Table 5 computes a DoD Composite Rate for individual compensation by adding DoD-wide costs (as discussed directly above) to the Service Composite Rate for an Air Force E-7. Factoring in the cost of the major DoD-wide benefits widens the difference between AC and RC, so that a full time RC E-7 is 83 percent the annual cost of his AC counterpart. The annual cost of a RC member in drill status remains about 13 percent of an AC member. A full time RC O-5 costs 88 percent as much as his AC counterpart while a RC O-5 member in drill costs 15 percent as much as an AC O-5. For E-4s, the percentages are 77 percent and 14 percent.

Table 5

Individual Compensation Example, PB13

Individual Compensation US Air Force E-7	Service Composite Rate	Additional DoD Factors	DoD Composite Rate
AC (Average of 15.6 years of service)	105,000	23,000	128,000
RC on Active Duty all year (20.9 years of service)	99,000	8,000	107,000
RC in Drill Status (Average of 20.9 years of service) Assumes 39 days = 24 days drill (48 pay periods) + 15 days AT	16,000	2,000	18,000

Limits of the Personnel Cost Estimate

These composite rates are determined by dividing the benefit's total cost to the DoD by the total number of service members in the component, weighted by an assessment of use or availability of the benefit to component members. This computes the average cost per individual per year for that component. In some cases (e.g., family housing) the benefit is not available to RC. In other cases (e.g., health care) the low average cost for the RC is due to modest utilization

rates. In the case of healthcare cost, these estimates are based on an actual cost and do not represent the potential cost if the benefits were fully utilized by Reservists.

A key limitation of the personnel cost estimate is properly accounting for the indirect, fixed costs of maintaining a standing force. Any standing force requires full-time support in the form of trainers, maintainers, acquisition personnel, logistics personnel, and administration. These functions are typically accounted for in a Service's budget and are generally provided by AC personnel (often with RC augmentation). Even though these indirect, fixed costs are not a function of component, they are often attributed to the AC even though they are sized to support both AC and RC personnel and units. This results in an overestimation of AC personnel costs. To avoid this, costs associated with both components should be identified and excluded or adjusted in the cost estimates to present a better understating of personnel cost by component.

Another shortcoming is in assuming that benefits (e.g., child care) are utilized equally regardless of rank. This method for estimating cost generally overestimates the cost of younger, lower-paid AC personnel and underestimates the cost for more senior, higher-paid AC personnel.

Costs Included/Excluded in the Estimate

The task of assigning all defense related costs to AC or RC service members is complex. It is easier to identify a "service composite rate" for individual compensation by component using the military personnel budget appropriation categories in standard budget documentation. The composite rates are readily available for AC. For the RC, given simplifying assumptions about duty status, the composite rates can be generated from information found in multiple sources. As shown in the previous section, it is less straight forward to assign additional compensation costs by component. Assigning operations and maintenance costs or investment costs is even more challenging, and thus this report does not do so. For example, though a Service procures equipment for the total force (both AC and RC), the cost to procure equipment is generally found in the Service's primary budget appropriations as opposed to those specific to the RC.

Costs outside DoD were assessed but were considered beyond the scope of this effort because they were either difficult to measure by component or not germane to AC/RC mix decisions. An example of the difficulty of allocating non-DoD costs by component is the Veteran's benefits funded by the VA. There is no system currently in place to track benefits by component, so one would have to be developed. A bigger issue is how to decide the basis for eligibility. Many RC members have VA eligibility as a result of prior active duty service so it will be difficult to create a simple way to assign VA costs by component. Studies by federally funded research and development centers find that, over the past decade, AC and RC members have accrued VA benefits at about the same rate. This is largely due to the unusually high utilization of the RC during this time.

U.S. Treasury contributions are another significant cost of defense not included in the report's estimates. The unfunded MERHC and retirement liabilities are excluded because, until paid off, they will be a cost to the federal government regardless of the size or AC/RC mix of the force.

Unit Cost

Unit cost is defined in this report as the personnel and training funds needed to achieve Service readiness objectives. Unit readiness and proficiency levels vary widely across AC and RC based on unit type. These examples also include an estimate of the incremental costs for AC and RC units to complete any additional training needed prior to deployment. This report does not address differences between how AC and RC units perform or were used when deployed.

In peacetime, AC units are generally funded to maintain a higher level of readiness relative to the RC. This provides quicker reaction time and more flexibility in the face of unforeseen events and permits AC forces to achieve higher proficiency against the most complex missions. While there are exceptions, particularly in the Air Force, RC units are generally resourced at a lower level of readiness in peacetime and require additional time and resources to be ready for deployment. This is a low cost way to maintain additional capacity given sufficient time to train these units to achieve the mission.

For most units, the cost of readiness is dominated by the cost of personnel. Training costs differ between components because of the variance in time needed for training and cost of the training for a specific capability. Over the course of a year, a RC unit conducting 39 days of home station training (e.g., drilling Reservists) cost much less than a full time AC unit. However once a RC unit is activated and prepared for deployment, RC costs rise significantly. Additionally, if a RC unit has a high percentage of full time personnel in peacetime, it can approach the cost of an AC unit.

When a RC unit is employed (deployed or mobilized), its unit training and operational costs are roughly the same as an AC unit. In line with individual cost, RC unit personnel costs range from about 80 percent to 100 percent of AC unit cost.

Estimating the Unit Personnel Costs

The unit personnel cost is calculated by combining individual compensation factors with the number of personnel for a unit based on unit manning documents. Key differences between AC and RC unit personnel costs are the number of days of pay, seniority levels of the force, and selected areas of individual compensation (e.g., retired pay accrual). Factors included in the estimate of RC unit personnel costs are the participation rate for drilling Reservists and the cost of full time personnel in the RC unit needed to support operations.

Estimating the Unit Training Cost

Unit training is resourced to achieve targeted readiness levels determined by each Service. This report assesses two categories of training costs associated with unit readiness: 1) the resources needed to reach peacetime readiness objectives and 2) the resources needed to prepare to deploy for specific missions. Unit readiness objectives and cost vary widely based on the type of unit and mission training.

In the case of Air Force combat aircraft, the readiness objectives for AC and RC units are the same. Maintaining this parity in readiness between AC and RC reduces the marginal savings provided by the RC in dwell.

In the case of Army Brigade Combat Teams (BCTs) there is a significant difference in readiness objectives between AC and RC. The readiness difference results in a large marginal savings for RC units in dwell. Maintaining a mix of AC and RC BCTs in this way allows the Army to balance responsiveness and depth at acceptable levels of risk and cost. Based on the Army Training Strategy in the FY 2013 President's budget, the AC readiness objective is for about one third to one half of the BCTs to achieve battalion or brigade level proficiency. Units at this level of proficiency require between 7 and 21 additional training days prior to deployment. The RC readiness objective is for three of 28 ARNG BCTs to achieve company level proficiency in a given year, and three additional RC BCTs to achieve platoon level proficiency. The incremental training time needed to take an RC BCT from company to brigade proficiency is between 50 to 80 days, and from platoon to brigade level it is 110 days. These training times reflect the minimum number of training days needed under ideal circumstances. Remedial training or additional logistical issues units may increase the total number of days needed for either AC or RC formations to reach readiness objectives prior to deployment. The lower RC readiness results in the RC requiring longer lead times before employment and in potentially limiting the type of missions suitable for RC BCTs.

Cost of a Ready Unit

This section provides an estimate of unit cost for selected AC and RC examples from each Service. As discussed above, the estimated cost to achieve or maintain unit readiness is based on the sum of personnel and training costs. The cost to prepare a unit for deployment can vary between AC and RC based on Service peacetime readiness status, mission, and the type of unit (size and equipment). Pre-deployment training includes the additional training costs (fuel, repair parts, ammo) and additional RC man-days needed to conduct the necessary preparations. In assessing the personnel and time needed to make AC and RC units ready to deploy, there is no assumption made that the AC and RC units are equal in capability.

Army

The Army example considers the cost to man and train an Active and ARNG IBCT for deployment. The IBCT formation is one of the Army's key combat maneuver elements consisting of over 4,000 soldiers organized into four echelons (from smallest to largest) platoon, company, battalion, and brigade. There are three platoons per company, four maneuver companies per battalion, and two maneuver battalions per brigade. The cost and complexity of training is observed to increase with each higher echelon. Under the current Army strategy, training is resourced so that the most ready AC operational units achieve battalion-level proficiency, while only a handful of RC units achieve company-level proficiency. Most ARNG BCTs are funded at squad-level proficiency in peacetime. The lower level of readiness in the RC is less expensive to maintain, but results in additional costs and training time once the unit is alerted for deployment.

The main cost differences between Army AC and RC units are found in the personnel costs, specifically, pay and allowances. The Army estimates that the annual cost to maintain peacetime levels of readiness for an AC IBCT in dwell is $277 million (94 percent of which is personnel cost). The incremental cost to prepare this unit for deployment is $8 million for a total cost of $285 million. The annual cost to maintain peacetime levels of readiness for an ARNG IBCT is $66 million (81 percent of which is personnel cost). When activated, the incremental cost to prepare one of these units to deploy is $97 million, for a total annual cost of $163 million. The total cost to maintain one AC IBCT is about twice that of the RC IBCT; however, under current force generation policies, an AC unit is available to deploy roughly twice as frequently as the RC unit for sustained rotational missions.

Navy

The Navy example considers the cost to man and train AC and RC Mobile Construction Battalions for deployment. Active and Reserve construction battalions have similar manning, equipping, and training requirements. Active units deploy for six months within an 18 month cycle. Reserve units are maintained at a lower readiness level because the Navy does not plan to mobilize and deploy Reservists on a regular basis.

It costs the Navy about $60 million (77 percent of which is for personnel) annually to man, train, and equip an active construction battalion. It costs the Navy about $14 million annually to man, train, and equip a reserve construction battalion (55 percent of which is for personnel costs). If the Navy were to activate a reserve battalion, 16 additional training days would be added prior to activation and three months of advanced training would be needed post-activation to be ready to deploy. The additional cost would be about $16 million, for a total cost of $30 million. The Navy's reserve construction forces cost considerably less but are also less ready to deploy and deploy far less frequently in peacetime.

Air Force

The cost of a ready unit will be demonstrated using F-16 squadrons as they constitute the vast majority of RC force structure in the tactical Air Force. Unlike other services, readiness for both forces is held at a high level. Training requirements for both AC and RC units are very similar during the course of a fiscal year with the RC enjoying lower sortie requirements, enabled by higher average experience levels. Responsiveness is somewhat faster in the AC, but even RC units are designed to respond within 72 hours, making incremental costs to deploy a RC F-16 squadron only the minimal costs to assemble the unit's part-time personnel at home-station.

The estimated cost to maintain peacetime readiness for the average AC F-16 squadron with 21 assigned aircraft is approximately $81.9 million per year (52 percent of which is for personnel). The Air Force assesses no incremental cost to prepare the AC unit for deployment. The ANG F-16 squadron with an average of 18 assigned aircraft is estimated to cost $56 million per year (49 percent of which is personnel costs). The incremental cost to prepare this unit for deployment is $0.9 million, for a total of $57 million. This puts RC peacetime costs at 69 percent of a typical AC unit. The typical demand would require a 12-ship package by the user, most likely a combatant commander.

Whether for a crisis/surge (e.g., Desert Storm) or rotational tasking, there is no significant difference between AC and RC unit costs during their period of use, as lower RC benefit accruals are offset by higher RC average wages and as pointed out above, a marginal cost for RC unit preparation. In other deployment cases, deployment length and rotation are more important factors as we consider steady-state peacetime tasking.

When not in surge operations, F-16s fill rotational requirements in many different theaters, including Operation NOBLE EAGLE in the United States. While both AC and RC provide value to other daily operations, for the purposes of this example we will consider those tasks away from home station and therefore subject to the deploy-to-dwell rates where forward presence is required. Historically, the RC has sourced these deployments through volunteerism rather than involuntary mobilization. From 2009-2013 the AC F-16 deploy-to-dwell rate average was 1:4 while the RC average was 1:17.

The historical deploy to dwell rates are expected to change in the near future. As of August 2013, the RC has agreed to a mobilization-to-dwell rate of 1:5. The increase in RC deployment frequency gives Air Combat Command schedulers a maximum sustained planning rate of 1:2 deploy-to-dwell for the AC and 1:5 mobilization-to-dwell for the RC. Cost and force deploy-to-dwell policy are just two variables used in decision making. The Air Force will also use various output efficiency metrics depending on the specific force employment decision being considered.

Marine Corps

The Marine Corps example considers the cost to man and train AC and RC infantry battalions for deployment. The Marine Corps estimates the annual cost to meet training objectives for an active infantry battalion is over $60 million (88 percent of which is for personnel). The incremental cost to prepare an AC infantry battalion for deployment is $4.2 million (the cost for a Service level assessment), for a total of $65 million. A RC infantry battalion in dwell costs $13 million (75 percent of which is for personnel) annually. When activated, the incremental cost to prepare this unit to deploy is $30 million, for a total RC cost of $44 million.

ACCESS AND AUTHORITY TO MOBILIZE THE RESERVES

Reserve Component Access

United States Code establishes specific authorities to activate members of RC in support of national defense strategies. These authorities enable voluntary or involuntary activations. An important distinction when utilizing voluntary and involuntary authorities is the definition of terms between activation and mobilization.

Activation versus Mobilization

Activation is an order to active duty (other than for training) in the Federal service. This includes members of the RC serving on full-time duty in the active military service of the United States.

Mobilization is the process by which the Armed Forces or part of them are brought to a state of readiness for war or other national emergencies. This includes activating all or part of the RC as well as assembling and organizing personnel, supplies, and materiel. Mobilization of the Armed Forces includes but is not limited to four categories: selective mobilization, partial mobilization, full mobilization, and total mobilization. By law, mobilization authorities require different levels of approval depending on specific force requirements. These requirements include but are not limited to the number and type of personnel necessary and length of time needed to accomplish national security objectives.

Voluntary versus Involuntary Service

RC members may be activated voluntarily to provide operational support. The primary limits on the use of voluntary activation authority are personnel availability and Service funding. As reflected in Table 7 extracted from the RC Global Utilization Report, the RC currently exhibits a high level of volunteerism, allowing voluntary activations to meet 33 percent of current demands.

Table 6

	ARNG*	USAR	USNR	USMCR	ANG*	USAFR	USCGR	RC TOTAL
Mobilized	32,715	12,791	4,239	3,218	2,192	1,636	347	57,138
Operational Support (Vol)	3,836	5,171	4,292	1,496	8,683	3,839	427	27,744
Total Activation	**36,551**	**17,962**	**8,531**	**4,714**	**10,875**	**5,475**	**774**	**84,882**

Combined RC and Defense Manpower Document Center (DMDC) Reports for March 31, 2012

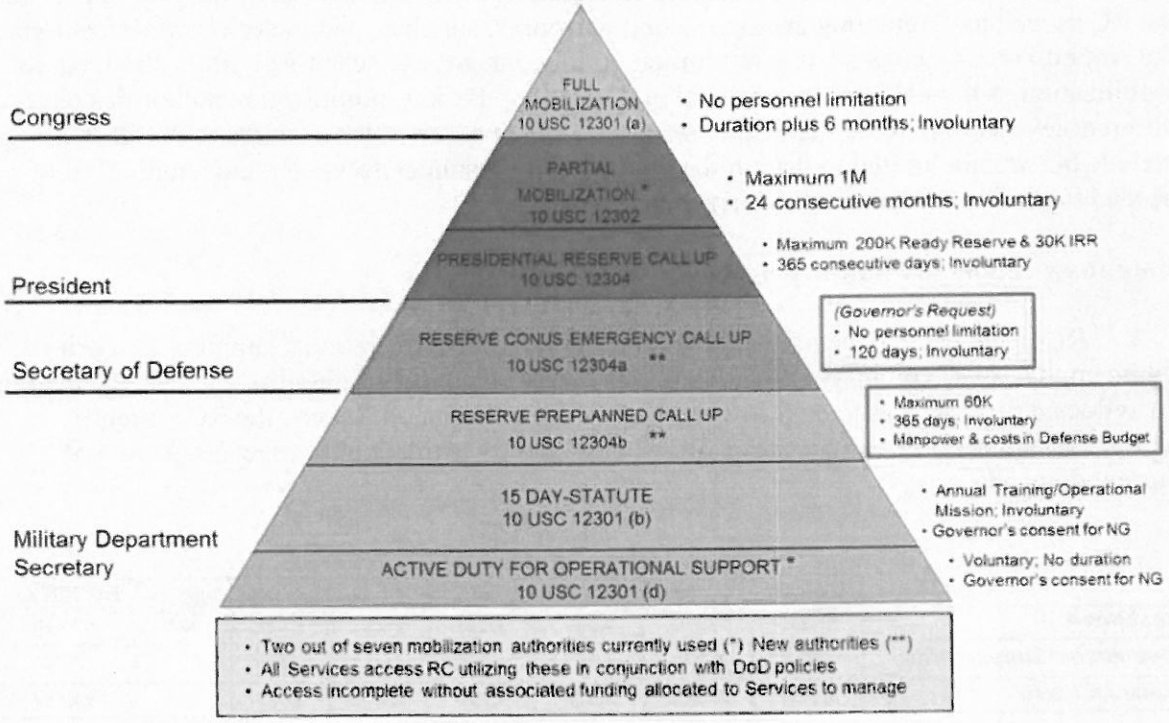
Involuntary activation authorities to mobilize RC members are established in Title 10, United States Code. The authorities significantly range in the size of the force and duration of the involuntary mobilization. Although involuntary mobilizations of units may include members who are willing participants, these members are still performing duty under an involuntary mobilization authority.

Reserve Component Authorities

The Congress, the President, and Secretary of Defense hold involuntary activation authority to access RC personnel and/or units during a state of national emergency and/or during increased global requirements to augment AC operations. Additionally, Service Secretaries sustain the authorities necessary to maintain required force levels for steady-state operational support.

Figure 8 displays the level of authority required for use, outlines some of the specific authorities available, and states the intended utilization requirements as provided by law to support force structure and combatant command requirements. Of the over thirty duty authorities available to activate the RC, seven of the major Title 10, United States Code statutes currently available to access the RC are discussed here. The size and duration of the military force required determines which statute best applies.

Figure 8



10 USC § 12301(a) – *Involuntary recall requiring a Congressional Declaration of War or National Emergency.* This statute allows for full mobilization of RC forces with no personnel limits for the duration required, plus six months for personnel reconstitution. Primarily used for rapid expansion of the Armed Forces in the event of an external threat to national security. The provisions of this authority substantiated the military force required during World War II.

"By the summer of **1941**, two years after the start of **World War II**, virtually all members of the Navy Reserve were serving on active duty, their numbers destined to swell upon the Japanese attack of Pearl Harbor on **December 7, 1941**. In the ensuing four years, the Navy would grow from a force of 383,150 to 3,405,525 at its peak."

10 USC § 12302 – *Involuntary recall requiring Presidential Declaration of National Emergency.* Partial Mobilization authority limited to one million personnel for a maximum of 24consecutive months with repeated mobilizations possible. This statute augments the AC in support of an external threat to national security or a domestic emergency. This authority provided RC forces during Operation Desert Shield, Operation Desert Storm, Operation Noble Eagle, Operation Iraqi Freedom, Operation Enduring Freedom, and Operation New Dawn.

10 USC § 12304 – *Involuntary recall requiring Presidential determination of RC augmentation requirements for named operational missions.* This statute limits personnel to 200 thousand (of which not more than 30,000 can be sourced from the Individual Ready Reserve) for no more than 365 consecutive days per contingency with repeated mobilizations possible. The use of this specific statute prohibits access for domestic response to many manmade or natural disasters. However, mobilized forces participated under this authority for short-term surge demands during Operation Allied Force and was also invoked for Operation Unified Response in Haiti but not utilized.

10 USC § 12304a – *Involuntary recall requiring Secretary of Defense Authority in response to state Governor's request for federal assistance.* This is a new authority that has no limit on the number of personnel but is limited to a period of mobilization not to exceed 120 days. It is for responses to emergencies or major disasters under the Stafford Act. For the employment of this statute the Secretary of Defense may waive the 30-day notification standard. This authority was used in support of Hurricane Sandy in 2012.

10 USC § 12304b – *Involuntary activation requiring Service Secretary Authority for preplanned and pre-budgeted requirements in support of combatant commands.* This is also a new authority, which is limited to 60,000 personnel at any one time for a maximum of 365 consecutive days. The determination of the Service apportionment of the 60,000 is under consideration. It also requires the Services to detail anticipated manpower and costs in budget materials submitted to Congress to include intended missions and mobilization periods. Services must report the details of the mobilization to Congress. Due to budget cycle timing there is no example of this authority yet; however, access to RC resources for global demands on an enduring basis is the intention.

10 USC § 12301(b) – *Involuntary 15 day recall.* At any time, an authority designated by the Service Secretary may, without the consent of the persons affected, order any unit, and any member not assigned to a unit organized to serve as a unit, in an active status in a RC under the jurisdiction of that Secretary to active duty for not more than 15 days a year. However, units and members of the Army National Guard of the United States or the Air National Guard of the United States may not be ordered to active duty under this subsection without the consent of the governor of the State (or, in the case of the District of Columbia National Guard, the commanding general of the District of Columbia National Guard).

10 USC § 12301(d) – *Voluntary recall requiring Service Secretary Authority to order to active duty with consent of Service Member.* This authority has no limits to the number of personnel; however, Services Secretaries are responsible to provide pay and benefits within Service budgets and in alignment with manpower and personnel end-strength policies.

CONCLUSION

This report identifies five key factors considered when making an AC/RC mix decisions. The three factors related to mission accomplishment include sourcing for operations; mission predictability and frequency; and unit responsiveness. The other two factors are sustainment of the force (personnel recruitment and retention) and cost. Mission accomplishment is paramount in any force mix decision, so those factors are typically given priority. Cost can be useful in situations where the mission-related factors do not point to a clear choice.

The cost analysis in this report examines the details of individual compensation and provides several examples of unit cost estimates. The observed trend is that when not in use, RC personnel are about 15 percent the cost of AC. When used, RC personnel cost range from 80 to 95 percent the cost of AC personnel. AC and RC unit costs vary widely based on unit type. This variation is due to differences in the make-up of personnel in a unit (e.g., skills type, ratio of office to enlisted personnel), operational cost of training; amount of training time necessary to achieve readiness objectives, and amount of full-time manning need to maintain readiness. For the examples considered in this report the cost to sustain readiness in a RC unit ranges from 50 to 74 percent the cost of the AC. The observed trend is that factors such as sustained readiness level, frequency of use, complexity of training, or capital cost of equipment increase the dwelling cost of readiness in RC units.